Ch	From Page	From Line	To Page	To Line	Comment	Response Option	Reviewer Notes
1	2	42			Explain why Washington waters are particularly vulnerable since other states have higher population density and experience upwelling.	Accepted (note required change)	Noted. Added to Executive Summary.
1	2	61			Example of need to translate statements like the 100-150% projected increase in acidification to pH, using "on the order of …" as necessary.	Noted	Noted.
1	4	96	4	100	Add context such as "This is important because…" and also describe aragonite and calcite – how are they related and how different – for the general reader. Need to set up the complex patterns described in lines 226-241, for example.	Noted	Noted.
1	4	113	4	116	Explain why 2.3 is of concern if 1.0 defines the problem as described in the previous paragraph.	Rejected (why)	Rejected. They misunderstood text
1	5	172	5	127	Figure doesn't support statement. Figure demonstrates relationship between atm CO2 and p(CO2) only since 1989, not for the last 50 years.	Accepted (note required change)	Noted. Text revised.
1	6	136	6	147	Since upwelling is the mechanism that seems to represent the greatest threat to acidification, explain why you cite surface water data here. Are these the only data available? Are these also of concern? If so, why?	Noted	Rejected. They misunderstood text

Ch	From Page	From Line	To Page	To Line	Comment	Response Option	Reviewer Notes
1	7	158	7	158	presumably, the figure shows when the range (rather than the average) saturation state won't overlap with that of today. Cooley's original caption is ambiguous on this point.	Accepted (note required change)	Noted. Text revised.
1	8	197			Change "are" to "may be" contributing to further acidification. Given all of the uncertainties described in later chapters, this statement is too definitive at this stage.	Accepted (note required change)	Noted. Text revised.
1	9	195	9	195	Figure from Kelly et al. shows *potential* contributors to coastal OA, rather than necessarily actual contributors. These inputs, and their relative importance, will vary with space and time, and some may not be appreciable drivers at all. This is a menu of hypotheses to be tested.	Accepted (note required change)	Noted. Text revised.
1	9	206			Review Kelly et al. to see why harvested areas are included in the diagram. Is there evidence that harvested areas are in fact increasing erosion and thus contributing to ocean acidification?	Accepted (note required change)	Noted. See Simone.
1	9	226	9	241	Explain why aragonite saturation horizon rises to area of concern but not calcite, as set up in lines 96-100. Is it wise to cite unpublished data (here and lines 1041-2, for example)? What does the depth of 60 m signify?	Noted	Noted. Described on line 234.

Ch	From Page	From Line	To Page	To Line	Comment	Response Option	Reviewer Notes
1	11	251	11	254	How can a 2004 publication include 2007 data for the depth or rate of rise cited here? Can you resolve the 150-200 m depths here vs. the 20-120 m depths in line 237 – why are the 2005 results indicating shallower shoaling if there is a monotonic rise in the horizon?	Accepted (note required change)	Noted. Text revised.
1	11	254			umol/kg -- Is there a way to use uniform units throughout? Current document mixes. Or report in the native units but decide on a common set of units in parentheses for context.	Noted	Noted. This is the preferred SI unit for oceanography.
1	11	259	17	260	Important to note this, since monitoring will need to account for a 30-50 year lag.	Noted	Noted.
1	13	311	13	323	cite to Keith Hunter et al 2011 for contrary proposition, and discussion relevance of that work to the Panel's calculations.	Rejected (why)	Noted.
1	13	312	19	314	Reference should be Mackenzie FT and Woodwell G , *1995) in Biotic Feedbacks in the Global Climatic System, eds Woodwell G , Mackenzie FT (Oxford Univ Press, New York), pp 22–46* as referenced in Doney article.	Accepted (note required change)	Noted. Text Revised.
1	13	333			Babson is not the primary source – suggest citing USGS as the primary source of river gaging information.	Noted	Noted.

Ch	From Page	From Line	To Page	To Line	Comment	Response Option	Reviewer Notes
1	14	338	14	360	Need to include nitrogen patterns here in addition to carbon. Suggest inserts from Ecology document.	Noted	Noted. Unclear what the comment is about.
1	14	338	14	347	Not quite right characterization of TMDLs and how the Clean Water Act is applied. We use DO and pH as biologically relevant endpoints and set water quality standards for them to protect aquatic life. Then we determine whether human sources of nitrogen, phosphorus, or carbon could degrade DO and pH.	Accepted (note required change)	Noted. Text revised.

Ch	From Page	From Line	To Page	To Line	Comment	Response Option	Reviewer Notes
1	14	351	20	355	This statement (pasted below), as it applies to forestry, is incorrect. There is a wealth of information that has been generated over the years about particulate organic matter input to and transport by streams in forested environments. The general conclusion from early studies (prior to buffering requirements in WA) was that logging leads to a decrease in particulate organic matter concentrations, not an increase. This response to cutting should be expected as the primary source of organic matter input (litter) is greatly reduced following harvest. The figures pasted below come from a paper describing Weyerhaeuser research back in the 1980's that compared organic matter delivery and transport in two streams, one in an old-growth forest and one in a recent clear cut (Bilby, R. E. and P. A. Bisson. 1992. Relative contribution of allochthonous and autochthonous organic matter to the trophic support of fish populations in clear-cut and old-growth forested headwater streams. Can. J. Fish. Aquat. Sci. 49:540-551.). The table indicates that tree harvest led to about an 80% decrease in organic matter delivery to the stream from the terrestrial system (allochthonous inputs). This decline was partially offset by increased algae production in the stream in the clear cut, but even so		Noted. Text revised.

Ch	From Page	From Line	To Page	To Line	Comment	Response Option	Reviewer Notes
1	14	354	14	354	After a review of Tallis 2009 (referenced in this section), we believe that the statement that forestry has an impact on carbon or nitrogen levels in stream water is not well substantiated. (New paragraph:) Additionally, one new issue raised by this paper is that changes in dissolved organic carbon (DOC) output in streams after logging could lead to increased biological productivity in intertidal areas, thus contributing to increased release of CO2. Previously, we provided comments relating to the effect of forest management on particulate carbon transport by streams and rivers to marine systems. (New paragraph:) Here are several concerns we have with the approach used in this paper to associate forestry with increased DOC and nitrate concentrations (N) in stream water: **1)** The author uses road density as an indication of logging intensity. This metric is a very poor surrogate for recent harvest activity. As accelerated decomposition of logging slash would be the primary contributor to elevated DOC in runoff, only logging that had occurred 5 to 10 years prior to the time at which the samples were collected could be expected to be contributing to elevated DOC. Roads could have been constructed to support harvest decades ago. In fact, in the Quillayute system (one of the study	Accepted (note required change)	Noted. Text Revised.

Ch	From Page	From Line	To Page	To Line	Comment	Response Option	Reviewer Notes
1	14	359	14	360	This sounds speculative – do we know of areas where rivers are too corrosive for shell/skeleton formation?	Accepted (note required change)	Noted. Text revised.
1	14	362	14	363	Very important statement to recognize. Might reference worldwide carbon emissions, rather than just carbon emissions. Our local emissions are only a small portion of the worldwide emissions.	Noted	Noted. Text revised.

Ch	From Page	From Line	To Page	To Line	Comment	Response Option	Reviewer Notes
1.2	3	85	3	88	Have lab experiments shown that the shell forming ability is significantly affected at acidification levels seen now or soon to be occurring? If so, it would be compelling to note that here.	Noted	See Ch 5

Ch	From Page	From Line	To Page	To Line	Comment	Response Option	Reviewer Notes
1.3	6	141	6	145	How do we know about these changes in mineral conditions at depth since the industrial revolution? Is this statement supported by model results or observations?	Noted	Suported by observations in Feely et al (2012) which is cited. 111-115

Ch	From Page	From Line	To Page	To Line	Comment	Response Option	Reviewer Notes
1.3	7	171	7	171	In general, how can one determine that observed acidity is anthropogenically caused?	Noted	See Feely et al 2004
1.4	7	185	7	185	Did the rate of change drive the extinction or the absolute pH level?	Noted	We don't know, but present research suggests that it was a combination of factore
1.4	7	187	7	187	Elaborate on natural buffering. Are there only these two feedback mechanisms known? Will the benthic and weathering processes increase along with	Noted	See Archer et al (1997).
1.6	9	235	10	239	[Note that the line numbering is erroneous starting at top of page 10] This section needs to discuss uncertainty in the estimates of anthropogenic effects on changes in the depth of saturation and the implied assertion that 2007 conditions were human-caused.	Accepted (note required change)	See Feely et al(2012). Text revised.
1.6					This section only references work by Feely et al. Are there other researchers around the country working on these issues and corroborating these findings? If	Editorial	Only Feely et al (2008; 2010) have been reported thus far. Others are working on this

Ch	From Page	From Line	To Page	To Line	Comment	Response Option	Reviewer Notes
1.7					To provide some focus to the planning of monitoring programs, some initial modeling work should be done to assess the relative importance of the	Noted	We emphasize in our recommendatios the importance of models and
2	19	492	19	494	Another important statement. Atmospheric CO2, not land-based inputs is thought to be the primary drivers of outer coast acidification. This is going to be key to mention in the recommendations and	Noted	Noted.
2	19	497	20	508	Can you rule out sensor drift on the pCO2 trend? Can you cite a QA document or other analysis?	Noted	Noted. pCO2 sensors have internal calibration systems which account for drift.
2	21	543	21	543	is a 1950 baseline ("normal") appropriate for dissolved oxygen? Connolly et al does not claim this.	Accepted (note required change)	Noted. Text revised.
2	21	558	21	567	Seems odd to have this in a summary of available science. Is there a separate section where you can describe ongoing and upcoming efforts that will help describe ocean acidification?	Accepted (note required change)	Noted. Text revised.
2	22	592	23	626	are these observing needs congruent with research needs listed? (i.e., if all of the observing needs were met, could you parse different sources of pH change?)	Noted	Yes.

Ch	From Page	From Line	To Page	To Line	Comment	Response Option	Reviewer Notes
2	24	656	24	657	Good reference for additional research needed.	Noted	Noted.
3	24	651			Nitrogen in marine waters is increasing, but there are no consistent trends in river or wastewater treatment plant inputs so cannot say that inputs are increasing.	Accepted (note required change)	Noted. Text revised.
3	26	719	26	719	"nitrogen oxides" not "nitrous oxides"	Accepted (note required change)	Noted. Text revised.
3	26	724	26	725	"… these additive effects MAY have contributed to corrosive conditions in Puget Sound" – too definitive to describe what we know today.	Accepted (note required change)	Noted. Text revised.
3	27	741	27	751	potential confusion in these two paragraphs with different baselines. First paragraph discusses change in pH relative to waters entering from the Strait; the second paragraph discusses change in DIC relative to preindustrial levels.	Noted	Noted.

Ch	From Page	From Line	To Page	To Line	Comment	Response Option	Reviewer Notes
3	29	833	29	834	We support the general draft recommendation (Chapter 7, Strategy 2, #3) outlining the need to quantify key processes including the human contributions to OA in Puget Sound. However, given the gaps identified in the White Paper, in terms of data, rate processes, spatial variability, and our overall scientific understanding OA, it seems premature (in the same document) to suggest that existing data and knowledge can be used to assess the magnitude of human nutrient loads and their affects on pH. (new paragraph:) In general, we see little value in pursuing a first-order, screening level, assessment given a high likelihood of external scrutiny of such preliminary results. Results from such an effort would likely require a great deal of effort to defend until more substantive assessments are made. We feel that the outcome may significantly weaken arguments developed in the White Paper supporting the need for additional data collection. We recommend striking lines 833-834 of the Draft White Paper and the associated Note in the Annotated White Paper Summary.	Accepted (note required change)	Noted. Text Revised.
3	29	837			Add “surface” to seawater alkalinity	Accepted (note required change)	Noted. Text revised.

Ch	From Page	From Line	To Page	To Line	Comment	Response Option	Reviewer Notes
3	30	845	30	845	Caption to Figure 1 should include a description of what's pictured in the upper-right-hand panel. Also, "yields a statistically significant increase" is probably more informative than "yields a statistically significant relationship."	Accepted (note required change)	Noted. Text revised.
3	31	881			Can you really say hypoxia is a driver of acidification since we don't really get ultra-low DO or is it coincident with acidification?	Rejected (why)	as defined by IPCC hypoxia is a driver
3	31	881	31	881	Strictly speaking, hypoxia isn't a driver of ocean acidification; *respiration* is, right?	Accepted (note required change)	Noted. Text revised.
3	31	884	31	898	Mention atmospheric nitrogen here or with local sources	Accepted (note required change)	Noted. Text revised.
3	32	905	32	905	but note Keith Hunter et al. 2011 (suggesting negligible importance of SOx/NOx for acidification at chemical equilibrium).	Rejected (why)	Noted

Ch	From Page	From Line	To Page	To Line	Comment	Response Option	Reviewer Notes
3	32	912	32	918	Suggest that this paragraph is deleted and replaced with this text (can cite Personal Communication, Ken Johnson, Weyerhaeuser Company): Treated wastewater from pulp and paper mills will have no effect on the pH of marine waters. There are currently four operating mills discharging to marine waters: Simpson Tacoma Kraft in Tacoma, Nippon Paper at Port Angeles, Port Townsend Paper Company at Port Townsend, and Cosmo Specialty Fiber in Cosmopolis. Mill wastewaters are regulated through customized National Pollutant Discharge Elimination System (NPDES) discharge permits. These permits regulate many wastewater quality parameters, including pH and toxicity. The allowable pH limit is >5.0 and <9.0, with a short-term excursion to 4.0 and 10.0. The requirement is to continuously measure and record pH of the wastewater discharge and all discharge monitoring data is reported to the Washington Department of Ecology in monthly discharge monitoring reports. Once per 5-year permit cycle, the NPDES permit requires a demonstration (through in situ measurement or modeling) that state water quality criteria (WAC 173-201A) are achieved. (New paragraph:) A typical mill production process results in a near neutral (7.0 pH) wastewater. Mills have the ability to add acid or	Accepted (note required change)	Noted. Text revised.

Ch	From Page	From Line	To Page	To Line	Comment	Response Option	Reviewer Notes
3	32	912	32	918	Pulp mills have limits for min/max pH. The Simpson mill in Tacoma, for example, must discharge between 5.0 and 9.0. We have one data point for it from the South Puget Sound study and found 6.5. Possibly too sweeping of a statement here?	Accepted (note required change)	Noted. Text revised.
3	33	948	33	974	Should you include the R/V Bold cruise funded by EPA from a few years ago?	Accepted (note required change)	Noted. Text revised.
3	34	984	34	995	If nitrogen-spurred algae growth is expected to decrease pH, how does that square with the apparent positive effect associated with the biological drawdown of CO2 in the August 2008 cruise? Need to explain. Different water depths?	Noted	Noted. Explained earlier in the document.
3	36	1035	36	1035	this question has come up a couple of times in the meetings: if deep, stratified waters tend to trap low-O2 and low-pH waters in deeper layers, what's the mechanism for low-O2/low-pH/low omega observations in shallow waters (which I believe Great Bend and Lynch Cove are)? Why doesn't the respired CO2 just escape back into the atmosphere in these shallow, non-stratified waters? [this is partially explained in Chapter 4, but would be worth addressing directly].	Accepted (note required change)	Noted. Text revised.

Ch	From Page	From Line	To Page	To Line	Comment	Response Option	Reviewer Notes
3	37	1039	39	1066	What explains the trend in air pCO2 at both buoys between May and September on the order of 10-20 ppm? Is this sensor drift? This appears to be the first time these data have been compiled and analyzed. There are several spikes in water pCO2 that do not coincide with river inflows and two are near blank sections of the temperature and salinity time series. Several spikes do not coincide with a spike in chlorophyll (e.g., 7/20/10). These data should be analyzed further in a separate publication – they appear to provide a wealth of information but are not developed fully at this point. Also, cite USGS for the Skokomish flow data just as you cite Sabine and Newton.	Accepted (note required change)	Noted. Text revised. The atmospheric decreas is due to the global uptake of carbon dixide into plants during the summer growing season.
3	39	1067	39	1067	These appear to be unpublished observations – is this wise? Can you add a thesis citation? There is no way for the reader to obtain the source information without a proper citation.	Accepted (note required change)	Noted. Text revised.
3	39	1079	40	1091	Really interesting. Could you cite a progress report or something in addition to the "in preparation" manuscript? Comment also applies to lines 1371-1410.	Rejected (why)	No there isn't a progress report available yet.

Ch	From Page	From Line	To Page	To Line	Comment	Response Option	Reviewer Notes
3	40	1093	40	1098	the information about atmospheric observations needs a sentence to tie it to p(CO2) or ocean acidification generally.	Noted	Noted. Discussed in Figure caption 2.2
3	40	1112	41	1130	Good recommendations. Also suggest collaboration with modelers to optimize the locations of these observations and achieve multiple benefits.	Noted	Noted.
3	41	1135	41	1141	The bullets are only focused on sources; as noted, sinks are also an important factor. Perhaps add a bullet: Quantify the impact of existing carbon sinks as potential mitigation options.	Accepted (note required change)	Noted. Text revised.
3	44	1247	44	46	Delete "fertilizers" since nitrogen comes from many natural and human sources.	Accepted (note required change)	Noted. Text revised.
4	44	1255	45	1267	Ecology has estimates of carbon, including POC, from rivers and wastewater treatment plants within Puget Sound and its shallow estuaries; no estimates are currently available for the Columbia River or outer coast embayments. Mohamedali et al., 2011. We do not have the type of analysis done for European estuaries, however.	Accepted (note required change)	Text added via Jennifer and Mindy
4	44	1257	44	1257	salinity missing units of measurement.	Rejected (why)	The reviewers statement is incorrect.

Ch	From Page	From Line	To Page	To Line	Comment	Response Option	Reviewer Notes
4	48	1353	48	1365	So is Willapa Bay more strongly influenced by local watershed runoff rather than upwelled coastal water, or is this only during the cruise period? If the latter, would be good to mention that the upwelling signal can be important since there is no other subsection on it in this chapter.	Noted	Noted. Described in lines 1284-1286.
4	48	1390	48	1398	Is this also Alin (in prep)? Can you cite a source here? The data are not presented so the reader cannot review the interpretation.	Accepted (note required change)	Noted. Text revised.
4					We question the appropriateness of combining discussion of Columbia River Estuary/Willapa Bay/Grays Harbor with shallow bays and inlets within Puget Sound (e.g., Totten Inlet); we would encourage the authors to reorganize the document so discussion of Puget Sound estuaries occurs in Chapter 3.	Noted	Noted.
5	57	1648	57	1658	statements require citations	Accepted (note required change)	Noted. Text revised.

Ch	From Page	From Line	To Page	To Line	Comment	Response Option	Reviewer Notes
5	69	2049	70	2050	some data exist on the energetics (or at least body mass/condition) of crustaceans due to OA, I believe. The National Shellfisheries Ass'n meeting in March (which several of the authors of this report attended) featured these talks, and I wonder if it's worth tracking down some numbers (even preliminary ones) to shore up this statement.	Accepted (note required change)	Noted. Text revised.
5	70	2055	70	2055	reduces the *maximum* temperature tolerance?	Accepted (note required change)	Noted. Text revised.
5	72	2145	72	2148	Clarify what type of resource extraction. References don't seem to reference resource use, but may have missed it somewhere.	Accepted (note required change)	Noted. Text revised.
6	84	2553	84	2560	I'm not sure that Fig 6.1 adds anything to the discussion, and moreover, I'm having a hard time wrapping my head around how the 'environment' sphere might work. It seems to me that the environment is the context in which both host and pathogen exist, rather than being an external third player in the system.	Accepted (note required change)	Noted. Text revised.

Ch	From Page	From Line	To Page	To Line	Comment	Response Option	Reviewer Notes
6	88	2679	88	2679	missing a word in this sentence.	Accepted (note required change)	Noted. Text revised.
1.6.2					This section warrants some revision/expansion: (1) Natural nutrient fluxes (particularly natural marine N at depth mixing into surface layer vs. human fluxes to rivers or direct to marine waters. Natural marine N is likely the dominant source of N as fuel for algae in Puget Sound. (2) Photosynthesis affects pH in addition to respiration. The current discussion offers only one side of the biotic effect on pH. Equation 5 runs not in one direction as shown but in both directions due to photosynthesis and respiration. It seems that the discussion should start with this simple fact and then step through the growth, death, settling process by which pH at depth would decrease. (3) My understanding is that salinity is the primary factor in vertical density stratification in Puget Sound, not temperature. Also, climate change may reduce summer river flows and thereby reduce summer stratification. (4) It should also be noted early in the report that there is no available information indicating that current levels of anthropogenic N released to Puget Sound or other NW marine waters are having a significant effect on ambient pH.		1) Noted. 2) Text revised in lines 294-296. 3) Noted. Not sure yet. 4) See lines 323-324.

Ch	From Page	From Line	To Page	To Line	Comment	Response Option	Reviewer Notes
1.6.3	13	320	13	320	What specific coastal regions did Doney et al analyze? Was the Northwest coast considered? The population/industry along our coast is very low, so air deposition from upwind combustion and agricultural sources would be far less abundant in the Northwest than in other parts of the country, particularly the eastern seaboard.	Noted	Noted. Doney et al describes that in their paper.

Ch	From Page	From Line	To Page	To Line	Comment	Response Option	Reviewer Notes
1.6.4	14	338	14	255	Is there any evidence that carbon releases are a significant factor in these state waters? Also, while the TMDL program may not be focused on elevated carbon levels (since they are not causing issues in fresh waters), the state water programs likely have a fair amount of sampling data that could be analyzed for trends in these constituents. This data availability should be noted. If the authors wish to provide information on TMDLs and water quality standards, which I think does warrant a section in the report, then the paper should describe all the water quality standards that may affect acidification trends. This would include pH standards and dissolved oxygen (DO) standards. It should be noted, for example, that Washington standards for DO are stringent, allowing very small anthropogenic impacts in areas that are vulnerable to pollution such as poorly flushed embayments.	Accepted (note required change)	This was edited based on input from Jennifer and Mindy

Ch	From Page	From Line	To Page	To Line	Comment	Response Option	Reviewer Notes
Annotated Summary					The separate document has the beginnings of an executive summary, so we only reviewed the bullets. We suggest that this be written to maximize communication with the broader Blue Ribbon Panel, and we understand a plan is in place to do so. However, we suggest removing reference to the two upcoming preliminary analyses (Atmospheric bullet 1 and Terrestrial Nutrients bullet 2) because this document should be a state of what we know now. This also applies to lines 833-834 in science white paper.	Accepted (note required change)	Noted. Text revised. Executive Summay added.
General Comment					We very much appreciate the work that went into creating this comprehensive and detailed White Paper. The quality of the document and the thought put into it by the authors was exceptional; especially considering the compressed timescale for its development.	Noted	Noted.

Ch	From Page	From Line	To Page	To Line	Comment	Response Option	Reviewer Notes
General Comment					We feel that the document does a good job of outlining a vision for how additional data could be collected by capitalizing and expanding existing monitoring infrastructure. That said, we would appreciate additional, specific discussion on how datasets will be synthesized to improve our overall understanding of processes governing pH in Washington's coastal and inland waters.	Noted	Noted.
General Comment					The document is more written for communication with other scientists. We suggest additional context or definitions be added to make sure the information is accessible to broader audiences. A few examples are described below, but this holds for the overall tone of the document.	Accepted (note required change)	Noted. Executive summary added.

Ch	From Page	From Line	To Page	To Line	Comment	Response Option	Reviewer Notes
	26	720	26	728	This discussion implies there is a clear connection between human-caused terrestrial nutrient loadings and acidity conditions at depth in Hood Canal. Are there any published studies that have analyzed this connection to date? It is emphasized that Hood Canal has particularly low pH levels compared to the rest of the Sound, but Hood Canal is unique in numerous ways, including ocean upwelling influences and natural hypoxia.	Noted	There is no published study yet.
	27	759	27	761	This is an over-simplification of the reasons for low impacts from the marine outfall as opposed to a lake discharge. It is not simply that central basin mixing limits phytoplankton growth. In addition to that factor, the deep discharge into saline water greatly dilutes the effluent and traps the effluent plume below the euphotic zone. Also, far field dilution of effluents is vastly greater in Puget Sound than Lake Washington simply by virtue of its size and tidal flushing.	Noted	Noted.

Ch	From Page	From Line	To Page	To Line	Comment	Response Option	Reviewer Notes
	27	774	27	776	This statement indicates that human impacts to pH can be estimated with monitoring data. To the contrary, monitoring alone probably cannot provide these estimates, because the monitoring results give us the ambient pH, which is a combination of the natural condition, global trend at the ocean boundary, and local human-caused effects. We need monitoring and numerical models to tease out local human-caused impacts from the natural condition and/or globally-impacted baseline.	Accepted (note required change)	Noted. Text revised.
	28	781	28	785	The large natural marine nitrogen loading entering Puget Sound should also be noted in commentary about the values in the Mohammedali et al. table.	Noted	Noted. This is covered in lines 827-828.
	28	788	28	788	A typo or editing problem on this sentence…	Accepted (note required change)	Noted. Text revised.
	28	788	28	790	Is this analysis of NO3 increase published information (no citation)? It would be helpful to explain the silicate/NO3 argument in more detail. Is this an annual average NO3 increase? And what is the average NO3 concentration, so this increase can be put in context?	Noted	See Figure 3.1 and reference therin.

Ch	From Page	From Line	To Page	To Line	Comment	Response Option	Reviewer Notes
	29	833	29	834	Please provide basic information about this preliminary analysis. Who is conducting it? What is the funding source? Who is reviewing it? If concurrent with this white paper, is a draft study available now?	Accepted (note required change)	Noted. Text Revised.
	30	862	31	870	There are actually two major processes that mix waters vertically in the water column, not just one (turbulent mixing mentioned here). Vertical advection is also important in stratified embayments.	Accepted (note required change)	Noted. Text Revised.
	40	1093	40	1093	In this and other places, there is emphasis on Seattle airshed CO2, but Puget Sound is east of low population areas, so one would think the average CO2 level is more like the west coast and/or the Twanoh station levels.	Accepted (note required change)	Noted. Text revised.